	ט	1	Document ID	Issue Date	Page s	Title	Current	OR	Current XRef
1	×		US 20020126618 A1	20020912	23	Timing and frequency offset estimation scheme for OFDM systems by using an analytic tone	370/208		370/503; 375/362
2	Ø		US 6058101 A	20000502	14	Synchronization method and system for a digital receiver	370/208		370/503; 375/362

	Retrieval Classif	Inventor	s	С	P	2	3	4	5	Image Doc. Displayed	РТ
1		Kim, Dong Kyu								US 20020126618	
2		Huang, Yung-Liang et al.								US 6058101	

	ט	1	Document ID	Issue Date	Page s	Title	Current OR	Current XRef
1	×	_	US 20040004935 A1	20040108	27	Receiver and method for WLAN burst type signals	370/208	370/322
2	⊠		US 20040004934 A1	20040108	28	Receiver and method for WLAN burst type signals	370/208	
3	⊠		US 20030231582 A1	20031218	8	Method and system of channel analysis and carrier selection in OFDM and multi-carrier systems	370/208	370/210
4	⊠		US 20030179776 A1	20030925	20	Multicarrier transmitter, multicarrier receiver, and multicarrier wireless communication method	370/491	370/208
5	⊠		US 20030156570 A1	20030821	39	Method for frequency division duplex communications	370/347	370/208
6	⊠		US 20030152021 Al	20030814	30	Post-fft scaling to reduce multiple effects	370/208	370/203
7	×		US 20030112743 A1	20030619	12	Timing synchronization for OFDM-based wireless networks	370/203	370/208; 370/210
8	×		US 20030086366 A1	20030508	115	Adaptive communications methods for multiple user packet radio wireless networks	370/208	375/150
9	×		US 20030072256 A1	20030417	20	Method for creating symmetric-identical preamble and method for synchronizing symbol and frequency of orthogonal frequency division multiplexed signals by using symmetric-identical preamble	370/208	
10	Ճ		US 20030072255 A1	20030417	26	System access and synchronization methods for MIMO OFDM communications systems and physical layer packet and preamble design	370/208	370/480
11	×	_	US 20020181390 A1	20021205	21	Estimating channel parameters in multi-input, multi-output (MIMO) systems	370/208	370/343
12	⊠		US 20020176483 A1	20021128	32	OFDM pilot tone tracking for wireless LAN	375/137	370/208; 375/376

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1		Zhu, Junjie et al.								US 20040004935	
2		Zhu, Junjie et al.								US 20040004934	
3		Logvinov, Oleg et al.								US 20030231582	
4		Sumasu, Atsushi et al.								US 20030179776	
5		Alamouti, Siavash et al.								US 20030156570	
6		Wang, Yi-Hsiu et al.								US 20030152021	
7		You, Charles et al.								US 20030112743	
8		Branlund, Dale A. et al.								US 20030086366	
9		Kim, Kwang-chul								บร 20030072256	
10		Ma, Jianglei et al.								US 20030072255	
11		Mody, Apurva N. et al.								US 20020181390	
12		Crawford, James A.								US 20020176483	

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13	×		US 20020176354 A1	20021128	14	Timing misalignment estimation	370/208	370/343
14	×		US 20020145971 A1	20021010	33	Apparatus and method for synchronizing frequency in orthogonal frequency division multiplexing communication system	370/208	370/210
15	×		US 20020126618 A1	20020912	23	Timing and frequency offset estimation scheme for OFDM systems by using an analytic tone	370/208	370/503; 375/362
16	⊠		US 20020122383 A1	20020905	17	Adaptive time diversity and spatial diversity for OFDM	370/210	370/208; 375/130
17			US 20020122382 A1	20020905	15	Synchronization in a multiple-input/multiple -output (MIMO) orthogonal frequency division multiplexing (OFDM) system for wireless applications	370/208	370/281; 370/344
18	⊠		US 20020114270 A1	20020822	53	Multiplex communication	370/208	370/482
19			US 20020097669 A1	20020725		Device for receiving OFDM signal, and method for restoring signal by channel estimation	370/208	370/203; 370/430
20	\boxtimes		US 20020041635 A1	20020411		Preamble design for multiple input - multiple output (MIMO), orthogonal frequency division multiplexing (OFDM) system	375/267	370/208; 375/135
21	⊠		US 6678339 B1	20040113		Globally optimum maximum likelihood estimation of joint carrier frequency offset and symbol timing error in multi-carrier systems	375/341	370/208; 375/262; 375/265; 714/708
22			US 6654339 B1	20031125		Synchronization symbol structure using OFDM based transmission method	370/203	370/208
23	⊠		US 6628606 B1	20030930		Coarse frequency offset estimator in orthogonal frequency division multiplexing receiver and method thereof		370/210; 375/260; 375/343

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13		Chiodini, Alain								US 20020176354	
14		Cho, Yong Soo et al.								US 20020145971	
15		Kim, Dong Kyu								US 20020126618	
16		Wu, Shiquan et al.								US 20020122383	
17		Ma, Jianglei et al.								US 20020122382	
18		Pierzga, Wayne Francis et al.								US 20020114270	
19		Kim, Dong-Kyu									
20		Ma, Jianglei et al.									
21		Lashkarian, Navid									
22		Bohnke, Ralf et al.									
23		Hong, Dae-sik et al.									

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24	⊠		US 6459679 B1	20021001		Method and apparatus for synchronizing orthogonal frequency division multiplexing (OFDM) receiver	370/208	370/343
25	⊠		US 6414936 B1	20020702		Method of estimating carrier frequency offset in an orthogonal frequency division multiplexing system	370/208	375/326; 375/355
26	×		US 6198782 B1	20010306		Estimation of frequency offsets in OFDM communication systems	375/341	370/208; 375/326; 375/355
27	⊠		US 6058101 A	20000502	14	Synchronization method and system for a digital receiver	370/208	370/503; 375/362
28	⊠		US 6035003 A	20000307		Apparatus for correcting frequency offset in OFDM receiving system	375/326	370/208
29	⊠		US 5903614 A	19990511		Communication method and receiving apparatus	375/340	370/208; 370/210; 370/335; 375/295; 375/308

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24		Kim, Yung-soo									
25		Cho, Jin-Woong et al.									
26		De Courville, Marc et al.									
27		Huang, Yung-Liang et al.								US 6058101	
28		Park, Young-Rok et al.									
29		Suzuki, Mitsuhiro et al.									

	σ	1	Document ID	Issue Date	Page s	Title	Current OR	Current XRef
1			US 20030210713 A1	20031113	13	Estimating a time offset between link points in a communication network operating in a frequency division duplex mode	370/503	370/341
2	⊠		US 20030026295 A1	20030206	13	Method and apparatus for synchronizing an OFDM signal	370/503	
3	Ø	_	US 20020150190 Al	20021017	9	Filter loop structure for synchronization in a mobile communication terminal and a method of using the same	375/354	370/503
4	⊠	:	US 20020141356 A1	20021003	35	Method and apparatus for acquiring a synchronization signal	370/324	370/503; 370/509; 370/510; 370/512
5	×		US 20020126618 A1	20020912	23	Timing and frequency offset estimation scheme for OFDM systems by using an analytic tone	370/208	370/503; 375/362
6	⊠		US 6693920 B2	20040217	13	Method and an apparatus for a waveform quality measurement	370/503	370/508
7	⊠		US 6539063 B1	20030325	25	System and method for recovering symbol timing offset and carrier frequency error in an OFDM digital audio broadcast system	375/267	370/319; 370/344; 370/503; 370/529; 375/270; 375/321; 375/326; 375/347; 375/360; 455/109; 455/204; 455/47

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1		Abdel-Ghaffar, Hisham								US 20030210713	
2		Baum, Kevin L. et al.								บร 20030026295	
3		Parr, Michael et al.								US 20020150190	
4		Beidas, Bassel et al.								US 20020141356	
5		Kim, Dong Kyu								US 20020126618	
6		Montojo, Juan et al.								US 6693920	
7		Peyla, Paul James et al.								US 6539063	

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88			US 6487252 B1	20021126	12	Wireless communication system and method for synchronization	375/260	370/320; 370/324; 370/330; 370/350; 370/481; 370/503; 370/509; 370/513; 370/515; 375/142; 375/145; 375/145; 375/295; 375/316; 375/330; 375/342; 375/342; 375/362; 375/364; 375/367
9	⊠		US 6418158 B1	20020709	23	Synchronization in mobile satellite systems using dual-chirp waveform	375/139	370/350; 370/503; 370/514; 370/520; 375/145; 375/149; 375/335; 375/364
10	⋈		US 6373861 B1	20020416	10	Frequency synchronizing device for OFDM/CDMA system	370/503	370/342; 375/354
11	×		US 6058101 A	20000502	14	Synchronization method and system for a digital receiver	370/208	370/503; 375/362
12	×		US 5943375 A	19990824	15	Method to indicate synchronization lock of a remote station with a base station	375/355	370/503; 375/364
13	×		US 5914932 A	19990622	17	Communication method and receiving apparatus	370/203	370/206; 370/503; 375/150
14	⊠		US 5790784 A	19980804	14	Network for time synchronizing a digital information processing system with received digital information	370/520	327/156; 370/350; 370/355; 370/478; 370/503

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8		Kleider, John Eric et al.								US	6487252	
9		Vishwanath, T. G. et al.								US	6418158	
10		Lee, Hyun-Kyu								us	6373861	
11		Huang, Yung-Liang et al.								US	6058101	
12		Veintimilla, Gregory J.								US	5943375	
13		Suzuki, Mitsuhiro et al.								US	5914932	
14		Beale, Terrance Ralph et al.								US	5790784	

	σ	1	Document ID	Issue Date	Page	Title	Current OR	Current XRef
1	Ø		US 20030152179 A1	20030814	12	Method and system for providing a semi-data aided frequency estimator for OQPSK	375/355	375/316; 375/362
2	⊠		US 20030026371 A1	20030206	11	Synchronization of a pilot assisted channel estimation orthogonal frequency division multiplexing system	375/362	
3	⊠		US 20020126618 A1	20020912	23	Timing and frequency offset estimation scheme for OFDM systems by using an analytic tone	370/208	370/503; 375/362
4	⊠		US 6680932 B1	20040120	14	Frequency and time synchronization in severe delay spread channels	370/350	370/509; 370/516; 375/226; 375/362
5	×		US 6606363 B1	20030812	9	Method and apparatus for estimating a frequency offset by combining pilot symbols and data symbols	375/362	370/500
6	\S		US 6590945 B1	20030708	13	Method and apparatus for frequency offset compensation	375/340	329/304; 375/226; 375/243; 375/244; 375/281; 375/285; 375/285; 375/304; 375/325; 375/332; 375/332; 375/362
7			US 6487252 B1	20021126	12	Wireless communication system and method for synchronization	375/260	370/320; 370/324; 370/330; 370/350; 370/481; 370/482; 370/503; 370/513; 370/515; 375/142; 375/145; 375/145; 375/145; 375/36; 375/330; 375/342; 375/342; 375/343; 375/362; 375/364; 375/367

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1	•		Sun, Feng-Wen								US 20030152179	
2	?		Laroia, Rajiv et al.								US 20030026371	
3	3		Kim, Dong Kyu								US 20020126618	
4	<u>L</u>		Hsuan, Yi et al.								US 6680932	
5	5		Atarius, Roozbeh et al.								US 6606363	
6	5		Brardjanian, Nima et al.								US 6590945	
	7		Kleider, John Eric et al.								US 6487252	

	σ	1	Document ID Issue Page Title		Current OR	Current XRef		
8	Ø		US 6356608 B1	20020312	18	Method, apparatus, and system for determining a location of a frequency synchronization signal	375/362	375/342
9	⊠		US 6104767 A	20000815	22	Method and apparatus for estimating a frequency offset	375/344	375/354; 375/362
10	⊠		US 6084932 A	20000704	19	Method to indicate synchronization lock of a remote station with a base station for a discrete multitone spread spectrum communications system	375/355	375/362
11	⊠	1 1	US 6058101 A	20000502	14	Synchronization method and system for a digital receiver	370/208	370/503; 375/362
12	×		US 5802044 A	19980901	15	Multicarrier reverse link timing synchronization system, device and method	370/330	370/337; 370/344; 370/347; 370/350; 370/447; 375/362; 455/69
13			US 5659545 A	19970819	17	Apparatus for mobile unit acquisition in a satellite communication system and method therefor	370/324	370/350; 370/508; 370/519; 375/268; 375/298; 375/362
14	×		US 5555247 A	7 19960910	31	Frame synchronizing apparatus for quadrature modulation data communication radio receiver	370/350	375/355; 375/362
15	⊠		US 5428647 A	7 19950627	13	Method and apparatus for synchronizing a received signal in a digital radio communication system	375/366	370/350; 370/513; 375/232; 375/343; 375/362
16	⊠		US 5422917 A	7 19950606	8	Frequency offset estimation using the phase rotation of channel estimates	375/371	327/3; 327/40; 375/362

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8		Atarius, Roozbeh								US 6356608	
9		Atarius, Roozbeh et al.								US 6104767	
10		Veintimilla, Gregory J.								US 6084932	
11		Huang, Yung-Liang et al.								US 6058101	
12		Baum, Kevin et al.								US 5802044	
13		Sowles, Kenneth L. et al.								US 5659545	
14		Matsuoka, Akihiko et al.								US 55552 4 7	
15		Rasky, Phillip D. et al.								US 5428647	
16		Scott, Kenneth E.								US 5422917	